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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/786,100 | 05/21/2001 | Fuminori Nakajima | IIDAP7.001AP | 8246 |

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| EXAMINER |
|---|
| THOMPSON, CAMIE S |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1774 | 7 |

DATE MAILED: 07/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. 09/786,100 | Applicant(s) NAKAJIMA ET AL. |
|---|---|---|
| | Examiner Camie S Thompson | Art Unit 1774 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-8 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-8 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al., JP10-010380 in view of Konaka et al., JP63-213809.

JP10-010380 discloses a single core optical fiber cord with an outer diameter of 1mm and has a resin coating at the center, a tensile-strength-fiber layer around the outer periphery of the fiber core wire and a thermoplastic resin sheath around the outer periphery of the tensile-strength-fiber layer (see abstract and Figure). Nakajima does not disclose that the thermoplastic resin sheath or coating layer is a non-halogen fire retardant resin. Konaka et al. teaches an optical fiber cable with resin sheath. Konaka also teaches that the resin sheath is a non-halogen flame retardant resin (see abstract). It would have been obvious to one of ordinary skill in the art to use a non-halogen flame retardant resin as the outer coating so as to protect the surface of the cable/cord from oxygen and flame without the use of a halogen-based flame retardant (see abstract).

4. Claims 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al., JP10-010380 in view of Konaka et al., JP63-213809 and in further view of von Bonin, U.S. Patent No. 5,034,056.

Japanese patents JP10-010380 and JP63-213809 disclose an optical fiber cord with a non-halogenated outer coating with features relied upon above. Neither reference discloses the composition of the outer coating layer. The von Bonin reference teaches a fire protectant composition used for cables that comprises phosphorus compounds such as ammonium polyphosphate, a thermoplastic polyester resin and a melamine resin as per instant claims 2,4 and 7 (see column 1, lines 10-13 and column 2, lines 28-68). It would have been obvious to one of ordinary skill in the art to use ammonium polyphosphate, a thermoplastic polyester resin and melamine resin because this composition exerts good protective action against further flaming ad extinguishing water (see column 4, lines 9-17). Von Bonin also teaches that 30 parts of

ammonium polyphosphate was added to the resin composition as per instant claims 2 and 4 (see Example 9, column 6, lines 17-20). In addition, the von Bonin reference teaches that the melamine resin can be used at 1 to 80% of the resin composition as per instant claim 5 (see column 2, lines 41- column 3, lines 5). It would have been obvious to one of ordinary skill in the art to use the melamine resin in a mass range of 50% or more so that during mixing chemical and/or physical alterations brought about inevitably or desirably can take place (see column 3, lines 39-50). None of the references disclose that the ammonium polyphosphate is surface treated as per instant claims 3 and 6. It would have been obvious to surface treat the ammonium polyphosphate in order to increase the moisture resistance and heat stability to protect the surface of the optical fiber cord.

The bending modulus of the outer coating layer of the optical fiber cord as per instant claim 8 is between 500 to 1,300 Mpa as this is a physical property of the outer coating. Therefore, this feature is inherent.

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al., JP09-120023 in view of Konaka et al., JP63-213809.

The Nakajima patent, JP09-120023, discloses an optical fiber cord with tensile characteristics to obtain a 1.2 mm or less outer diameter wherein there is a tensile-strength-fiber layer surrounding the optical core and a thermoplastic resin-coating sheath surrounding the tensile-strength-fiber layer (see abstract and Figure). Japanese Patent No. JP09-120023 by Nakajima et al. does not disclose the use of a non-halogenated flame retardant resin as the outer coating. Konaka et al. teaches an optical fiber cable with resin sheath. Konaka also teaches that the resin sheath is a non-halogen flame retardant resin (see abstract). It would have been obvious to one of ordinary

skill in the art to use a non-halogen flame retardant resin as the outer coating so as to protect the surface of the cable/cord from oxygen and flame without the use of a halogen-based flame retardant (see abstract).

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (703) 305-4488. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly, can be reached at (703) 308-0449. The fax phone numbers for the Group are (703) 872-9310 {before finals} and (703) 872-9311 {after finals}.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700